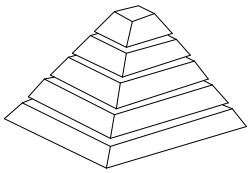
Philips Healthcare



SERVICE BULLETIN

Issued by : *PM-A Jason Pereira*

SB Ref No. : *SB86201180A*
Date : *10/28/2010*

INFORMATION ONLY — NO ACTION REQUIRED

TITLE: SB86201180A - 865214 (Expression System) – Test and Inspection Procedure Release

APPLIES TO:

Geography	:	*Worldwide*

Commercial (Sales) Product Number	**PMS Number:** 865214	**Part Number:** 865214
Range of Serial Numbers	ALL	

SERVICE BULLETIN INFORMATION:

This service bulletin provides an updated test and inspection procedure for the 865214 (Expression System). This supersedes any older versions and should be used for any future service events.

When to perform tests

Service Event (When performing…)	Test Required …Complete these tests)
Installation	Perform Visual Inspection and Power On
Preventative Maintenance	Perform Visual Inspection, Power On, and Performance Assurance Tests
All Repairs	Perform Visual Inspection, Power On, and Performance Assurance Tests
Upgrade	Perform Visual Inspection, Power On, and Performance Assurance Tests
All other service events	Perform Visual Inspection, Power On, and Performance Assurance Tests

Test and Inspection Matrix:

Test Block	Test or Inspection to be Performed	Expected Test Results	Record the Results
Visual	Inspect the unit and cables for damage.	If NO damage, Visual test is passed	**V:P** or **V:F** where P=pass and F=fail
Power **O**n	Perform Power On Test in (Section **I**). Do all the steps in Section **I** pass?	Expected answer is "yes". If so, Power On test passed.	**PO:P** or **PO:F** where P=pass and F=fail
Performance **A**ssurance	Perform the Performance Assurance tests (Section **II**) as described in the performance assurance block. Do all the steps in Section **II** pass?	Expected answer is "yes". If so, Performance Assurance test passed	***See PA table*** **PA1-PA11:P** or **PA1-PA11:F** where P=Pass and F=Fail
Safety	No safety test is required on this system.	N/A	**S:N/A**

Preventive Maintenance:

Perform the below blocks as part of preventative maintenance.

Visual Inspection, Power On and Performance Assurance Test.

Test Equipment:

1. Patient simulator (Metron PS-416M or medsim 300 model) or equivalent
2. Invasive Pressure Simulator Capable of producing static pressure values of 0, 40, 100, 200 & 250mmhg
    A. (IBP/Simulator) Adapter cable (TBD)
3. TSI Model 4140 Flowmeter (453564178121 or 453563230731) or OMEGA FL-211 Flowmeter or equivalent
    B. (with appropriate tubing, SBR,.250""X.125""X.0625"" Qty 2 Feet)
4. Baumanometer (Manometer) or equivalent
    C. Invivo adapter (TBD)
5. A standard computer keyboard (PS2 only) and VGA computer monitor w/video port cable.

Additional Test Equipment ONLY for the Bench:

1. RF Test Station

The following accessories are necessary to perform this Test and Inspection procedure. In most cases the customer's accessories are preferable and should be used in testing and verifying the system. However, the following is a list of the recommended part numbers.

Accessories:

1. Adult Hose **(989803169411)**; Adult Cuff **(989803169451)**; Neonatal cuff **(989803170401** /size #3); Neonatal Hose **(989803169421)**
2. SPO2 Finger Probe p/n 9399B Grip Sensor **(989803152381)** or p/n 9399C Clip Sensor **(989803157971)**
3. Probe, Fiber Optic Surface Temp **(989803162531)**
4. Standard ECG lead/cable set **(452213305301)**
5. Chest Pneumograph sensor (bellows) p/n 94023 **(989803152791)**
6. CAL GAS, AEROSOL CO-2 p/n 9010F **(989803152641)**
7. CANNULA, DISP, ADULT p/n 9012 (**989803152561**)

I Power on Test

1.0 Initial AC Power

With the Power Adapter connected to the AC power line, verify that the unit powers up, and both Power Indicator LED's are illuminated GREEN on the DCU and on the Cart.

NOTE: ETCO2 or AGENTS option must remain active during test. Interruptions should not occur from power up to ETCO2 or AGENTS testing so that temperature is at optimal range.

ETCO2 OPTION ONLY. Attach the Low Flow ETCO2 Water Trap (clear with a blue band) to the PCU and the blue sample line only to the water trap. Enter the **SETUPS** / **PARAMETER SELECTION** menu to turn **ETCO2 ON**.

AGENTS OPTION ONLY. Attach the Clear Agents Water Trap to the PCU and the clear sample line only to the water trap. Enter the **SETUPS** / **PARAMETER SELECTION** menu to turn **AGENTS ON.**

II Performance Assurance Tests

2.0 COMMUNICATION VERIFICATION and ICON CHECK

2.1 With the DCU & Cart powered up and booted on DC power only, verify communication (COMM) between the DCU, Cart, and the WECG and WSPO2 remotes. As shown in row one.

2.2 With the DCU & Cart powered up and booted on AC power with batteries installed, verify communication (COMM) between the DCU, Cart, and the WECG and WSPO2 remotes. As shown in row two.

2.3 With the DCU & Cart powered up and booted on AC power with no batteries installed, verify communication (COMM) between the DCU, Cart, and the WECG and WSPO2 remotes. As shown in row three.

2.4 With the DCU only powered up and booted on AC power with no batteries installed, verify no communication (COMM) between the DCU, Cart, and the WECG and WSPO2 remotes. As shown in row four.

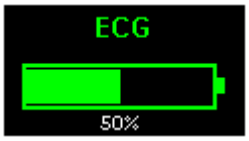
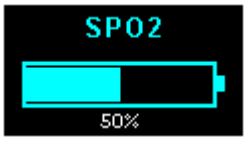
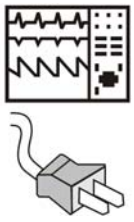
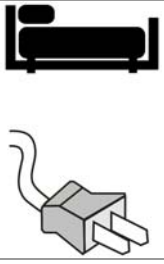
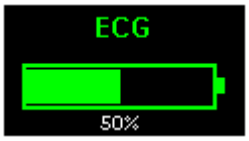
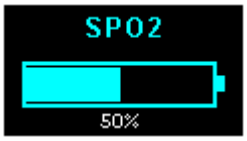
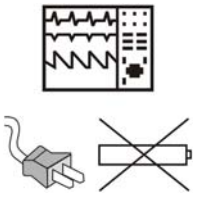
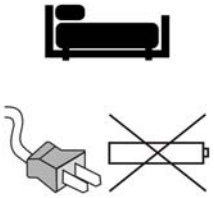
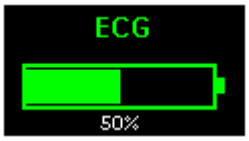
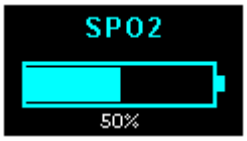
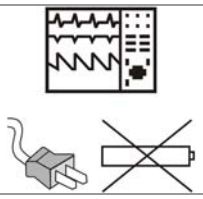
	DCU	WPU	WECG	WSPO2
DC Power (Batteries Only)				
AC Power w/ Batteries Installed				
AC Power w/o Batteries Installed				
No COMM				

Table 1: DCU System Icons

3.0 WECG COMMUNICATION

3.1 Attach the ECG cable to the WECG module. Connect the ECG leads to the Patient Simulator as indicated in Table 2 below (as a reference Table 3 illustrates the ECG Leads to Lead Wires/Colors Scheme):

Table 2

ECG Lead(s)	Patient Simulator Terminals
GREEN	RL
WHITE	RA
BLACK	LA
RED	LL

Table 3

ECG Lead(s)	Patient Simulator Lead Wires
I	WHITE, BLACK
II	WHITE, RED
III	BLACK, RED

3.1.1 Set the Patient Simulator to output a 1.0mV QRS pulse at 60BPM (NORMAL SINUS mode).

3.1.2 Power up the WECG wireless sensor by inserting a rechargeable battery.

3.2 LEAD I (1.0mV)

Within the ECG menu set:

3.2.1 TRACE A LEAD to I

3.2.2 SCALE of 10 mm/mV

3.2.3 HR TONE SOURCE and select QRS

Then verify the following:

3.2.4 TRACE A shows a waveform sequence of moving QRS pulses without jittering.

3.2.5 ECG numeric shows a count of 60 ±1BPM.

3.2.6 QRS Heart Rate Tone is present with NO double tones.

4.0 WSPO2 VERIFICATION

4.1.1 Connect a SpO2 probe to the WSPO2 sensor, and power up with a battery. Verify PROBE OFF message is displayed when there is no finger in the probe.

4.1.2 Within the **SPO2** menu press the rotary/selector knob and select **HR TONE SOURCE**. Within the **HR TONE SOURCE** select **SPO2**

4.1.3 With the tip of operator's finger is placed inside probe, verify an **SPO2** (pulse) waveform with each heart rate count and tone.

4.1.4 With the tip of operator's finger is placed inside probe, verify a reasonable SPO2 number displayed (95% to 100%) on DCU.

5.0 NIBP VERIFICATION

Note: A number of tests in this section utilize the NIBP CAL window. Due to a hardware timer, the NIBP CAL window should not be displayed for a period longer than 3 minutes at a time. The NIBP CAL window can be closed via any means within this 3 minute period to reset the timer. In the event the NIBP CAL window is displayed for longer than 3 minutes, the NIBP hardware timer will disable the NIBP parameter and the WPU will need to be power cycled to reset the NIBP hardware. Verify that all parameters from the initial setup (step 1.0) are turned back on.

5.1 PNEUMATIC LEAK TEST

5.1.1 Pneumatic Leak Test High (1st row)

With the patient setup as ADULT, connect an Adult cuff and hose to the NIBP ports. Tightly wrap the cuff around a fixed object, approx. 6" in diameter. Within the **SETUPS** menu select **SERVICE (BIO-MED)/NIBP TESTS** and then select **LEAK TEST.** Verify that at the end of each leak test cycle (a minimum of two cycles), the difference between **PEAK** and **FINAL** is ≤10.

5.1.2 Pneumatic Leak Test Low (2nd row)

With the patient setup as ADULT, connect an Adult cuff and hose to the NIBP ports. Tightly wrap the cuff around a fixed object, approx. 6" in diameter. Within the **SETUPS** menu select **SERVICE (BIO-MED)/NIBP TESTS** and then select **LEAK TEST.** Verify that at the end of each leak test cycle (a minimum of two cycles), the difference between **PEAK** and **FINAL** is ≤10.

5.2 NIBP Offset Verification

With no pressure applied, bring up the **SETUPS** menu on the WPU using the NAV command via the keyboard. Activate the **SETUPS** menu by pressing **F4** on the keyboard. Select **SERVICE (BIO-MED)**, then **NIBP TEST)/, then CALIBRATE**. Verify the offset reading on the primary **(PRI)** and secondary **(SEC)** is within 10±2 in the **NIBP CAL** window. After verifying these values, press ESC to exit the menu screens

5.3 Calibration Accuracy Check

While still in the NIBP CAL window, connect a Manometer and hand bulb to the NIBP Pump (right) port and close the valve on the Manometer hand bulb. Slowly increase the pressure until the Manometer reads 250mmHg. Verify

the **PRESS READING** of the **SEC** transducer reads 250 ±5mmHg. Close the **NIBP CAL** window by pressing Enter. Open the valve on the Manometer hand bulb.

Connect the Manometer to the NIBP Sense (left) port and close the valve on the Manometer hand bulb. Display the **NIBP CAL** window once again. Slowly increase the pressure until the Manometer reads 250mmHg. Verify the **PRESS READING** of the **PRI** transducer reads 250 ±5mmHg. Close the **NIBP** CAL window and open the Manometer hand bulb valve.

5.4 Overpressure Adult

5.4.1 Connect a Manometer and hand-bulb to the NIBP Pump (right) port. Close the hand-bulb valve. If the NAV menu is not activated then type "**nav**" from the keyboard connected to the WPU (Service Access Panel) and press **F4** to enter the **SETUP** menu. Within the **SETUPS** menu select the **SERVICE (BIO-MED)** and then select **NIBP TEST**. From the **NIBP TEST** select **CALIBRATE** and verify NIBP CAL window is displayed.

5.4.2 Squeeze the hand-bulb until **SEC: PRESS READING** equals 295mmHg in the NIBP CAL window. Verify over-pressure occurs (as indicated by pressure fall) at 295 ± 4mmHg and "**OVER PRES**" is displayed in the Error Message Display area. Press the number 2 key to enter **STANDBY**, then press 2 again to remove message.

5.4.3 Switch/connect the Manometer to the NIBP Sense (left) port. Display the **NIBP CAL** window as stated in test step 5.1.5 a. Close the hand-bulb valve; squeeze the hand-bulb until **PRI: PRESS READING** equals 285 ±4mmHg and "**OVER PRES**" is displayed in the Error Message Display area. Press the number 2 key to enter **STANDBY**, then press 2 again to remove message. Note: Pressure will not fall during this test step.

5.5 Overpressure Neonatal

5.5.1 Connect a Manometer and hand-bulb to the NIBP Pump (right) port. Close the hand-bulb valve. Within the **SETUPS** menu change the **PATIENT** option from **ADULT** to **NEO**. If the NAV menu is not activated then follow the NAV setup as stated in test step 5.4.1.1 (**NIBP CAL** window must be displayed).

5.5.2 Squeeze the hand-bulb until **SEC: PRESS READING** equals 150mmHg. Verify over-pressure occurs (as indicated by pressure fall) at 150 ± 4mmHg and "**OVER PRES**" is displayed in the Error Message Display area. Press the number 2 key to enter **STANDBY**, then press 2 again to remove message. Open the Manometer hand-bulb valve.

5.5.3 Repeat test step 5.5.2 to verify that if the pressure reading is >142 but <150mmHg, the "**OVER PRES**" alarm will activate within 15 seconds. Open the Manometer hand-bulb valve.

5.5.4 Switch/connect the Manometer to the NIBP Sense (left) port. Display the **NIBP CAL** window as stated in test step 5.4.1.1. Close the hand-bulb valve; squeeze the hand-bulb until **PRI: PRESS READING** equals 156 ±4mmHg and "**OVER PRES**" is displayed in the Error Message Display area. Open the Manometer hand-bulb valve. Note: Pressure will not fall during this test step.

5.5.5 Repeat test step 5.5.4 to verify that if the pressure reading is ≥142 but ≤156mmHg, the "**OVER PRES**" alarm will activate within 15 seconds. Open the Manometer hand-bulb valve.

To exit the navigation application press the "**End**" keyboard key, pause for the application to respond and then press "**y**". The "**Esc**" keyboard key will exit the navigation application and return to the 865214 (3160P) normal screen. The "**End**" keyboard key must be pressed to properly terminate/exit the navigation application. Disconnect the keyboard and VGA monitor from the WPU.

5.6 Adult Verification

5.6.1 Connect an adult cuff and hose to the NIBP ports and place cuff on arm. Within the **SETUPS** menu set the **PATIENT** option to **ADULT**. Press the **NIBP START/STOP** function key. Verify cuff inflates to approximately 170mmhg and the cuff deflates when a blood pressure determination has been reached. Verify those systolic, mean and diastolic pressure numerics are present in the **NIBP** menu. Remove cuff from arm.

5.6.2 ADULT Dead Man Cuff

With the Adult cuff still connected; place cuff around a fixed object, approx. 6" in diameter arm. Press the **NIBP START/STOP** function key. Verify the unit displays a Zero reading at the end of the NIBP cycle. Disconnect the adult cuff.

5.7 Neonatal Verification

5.7.1 Connect a neonatal cuff and hose to the NIBP ports. Within the **SETUPS** menu set the **PATIENT** option to **NEO**. Press the **NIBP START/STOP** function key. Hold hand with cuffed finger above shoulder height to insure measured blood pressure is below 100mmHg. Verify cuff inflates to approximately 130mmHg and the cuff deflates when a blood pressure determination has been reached. Verify that systolic, mean, and diastolic pressure numeric are present in the **NIBP** menu and values are normal for the operator's neo finger pressure. Remove cuff from finger.

5.7.2 Neonatal Dead Man Cuff

With the neo cuff still connected, place cuff around fixed object, approx. 1"

in diameter. Press the **NIBP START/STOP** function key. Verify the unit displays a Zero reading at the end of the NIBP cycle. Disconnect the neo cuff. Set the **SETUPS/PATIENT** option back to **ADULT**.

5.8 Leak Time-Out

5.8.1 Leak Time Out ADULT

With the PATIENT mode set to ADULT, all cuff connections removed, all NIBP ports open, and the NIBP function started:

Verify that the pump shuts off within 6 seconds ±1.5 seconds and that the error message **NOT INFLATING** is displayed in the **NIBP** menu.

5.8.2 Leak Time Out Neonatal

With the PATIENT mode set to NEONATAL, all cuff connections removed, all NIBP ports open, and the NIBP function started:

Verify that the pump shuts off within 6 seconds ±1.5 seconds and that the error message NOT INFLATING is displayed in the NIBP menu.

5.9 Calibrate Error

Connect a Manometer to the NIBP Sense (left) port. Note: unit must NOT be in **STANDBY** for this test. Inflate the mercury column to 15mmHg. Press the **NIBP START/STOP** key. Verify that the pump does not start and **CALIB** message appears within 30 seconds. Release the pressure from the Manometer and disconnect it from the NIBP port

6.0 INVASIVE PRESSURE VERIFICATION (N/A if option is not installed)

6.1 With P1 & P2 turned on in the SETUPS/PARAMETERS SELECTION, and the IBP Simulator connected to the P1 port, set the Pressure Simulator to output 000mmHg. Using the selector knob, enter the P1 menu and select **ZERO SET**. Verify the P1 numeric and waveform return to zero. Then verify that P1 on the DCU displays the pressures within the given tolerances as listed in Table 4.

Table 4

Pressure Transducer Simulator	Trace P1 (P2) Numeric Display
0	0 ±1
200	200 ±2
0	0 ±1
40	40 ±1
100	100 ±1
200	200 ±2
250	OVR

NOTE: The systolic, diastolic and mean values should read within ±1mmHg of one another.

6.2 With P1 & P2 turned on in the SETUPS/PARAMETERS SELECTION, and the IBP Simulator connected to the P2 port, set the Pressure Simulator to output 000mmHg. Using the selector knob, enter the P2 menu and select **ZERO SET**. Verify the P2 numeric and waveform return to zero. Then verify that the P2 menu on the DCU displays the pressures within the given tolerances as listed in Table 4.

7.0 AGENTS VERIFICATION (N/A if option is not installed)

NOTE: Gas measurement performance requirements are met after the warm-up period (20 minutes).

7.1 Agents Flow Test (Adult & Neo)

7.1.1 With AGENTS turned ON and PATIENT set to ADULT in the SETUPS/PARAMETER Selection menu, the exhaust port open, a sample line connected to the agents water trap, and the Flowmeter connected to the end of the sample line, verify that the flow is 200ml/min ±20ml/min.

7.1.2 With AGENTS turned ON and PATIENT set to ADULT in the SETUPS/PARAMETER Selection menu, the exhaust port open, a sample line connected to the agents water trap, and with the sample line input blocked, verify that message CO2 OCCLUSION is displayed within 30 seconds.

7.1.3 With AGENTS turned ON, a sample line connected to the agents water trap, and the Flowmeter connected to the end of the sample line, and the exhaust port blocked, verify that the flow drops to 0ml/min.

7.1.4 With AGENTS turned ON and PATIENT set to NEO in the SETUPS/PARAMETER Selection menu, the exhaust port open, a sample line connected to the agents water trap, and the Flowmeter connected to the end of the sample line, verify that the flow is 150ml/min ±15ml/min.

7.1.5 With the water trap removed, the Flowmeter connected to the left port (as seen looking at the monitor) of the water trap receptacle, and the right port of the water trap receptacle left open, verify that the flow is 35ml/min ±15ml/min.

7.1.6 With the water trap removed, the Flowmeter connected to the right port (as seen looking at the monitor) of the water trap receptacle, and the left port of the water trap receptacle left open, verify that the flow is 165ml/min ±15ml/min.

7.1.7 Connect 9010F (10%CO2/ 50%N2O) check gas to agent sample line. Apply 9010F check gas and verify the unit detects CO2 and measures 76mmHg ±9mmHg, also verify the unit detects N2O and measures 50% ±5%. The check gas flow should be flowing for at least 2 minutes before a CO2 reading is recorded.

7.2 **O2 Sensor Verification**

7.2.1 With Artema O2 Sensor into sensor port at the back of the Cart, and GAS CAL / O2 INIT CAL selected in SERVICE MENU, verify that:

7.2.1.1 The O2 sensor is within its expiration date

7.2.1.2 An O2 value of 21% is displayed (at ambient air) in Agents box after the calibration is completed.

8.0 ETCO2 VERIFICATION (N/A if option is not installed)

8.1 **ETCO2 Flow Test**

NOTE: Gas measurement performance requirements are met after the warm-up period (20 minutes).

8.1.1 With ETCO2 turned ON in the SETUPS/PARAMETER Selection menu, a sample line connected to the ETCO2 water trap, the warm-up period satisfied, and ZERO CAL selected verify "READJUSTING CO2 ZERO" is displayed at the top center of the DCU screen.

8.1.2 With a water trap installed, a sample line connected to the water trap, and the Flowmeter connected to the end of the sample line, verify that the flow is 80 ml/min ±16ml/min.

8.1.3 With the sample line input blocked, verify that the message CO2 OCCLUSION is displayed within 30 seconds.

8.1.4 Connect a nasal cannula to CO2 sample line. Place nasal cannula on self and breathe normally through the nose. Verify the CO2 reading displayed is within (34-43). Also verify the CO2 waveform displayed is consistent with the operator's normal respiration rate typically (10-16BPM).

9.0 RESPIRATION VERIFICATION (N/A if option is not installed)

9.1 With REPSIRATION turned ON, a respiration bellows connected to the WSPO2 respiration port, and the bellows attached to the operator's chest/stomach region, verify the Expression DCU respiration displays a rate consistent with the operator's normal respiration rate (typically 10-16BPM).

10.0 TEMPERATURE VERIFICATION (N/A if option is not installed)

10.1 With the PATIENT mode set to ADULT, and the SETUPS / PARAMETER SELECTION / TEMP setting set to ON, the body temp probe connected to the 865214 Temperature port:

10.1.1 Verify that the ambient temperature reading is displayed.

11.0 RF TEST

Run an MRI test scan and verify no noise on image. Or perform procedure below:

OR

Perform the below procedure if using an RF chamber:

At the RF Test station, ensure that all equipment is turned on including 1) Agilent 34970A Data Acquisition / Switch Unit, 2) HP 8560E Spectrum Analyzer, 3) Agilent 8447D Amplifier (inside of shield room), 4) test computer, 5) display and 6) printer

11.1 On computer display, double click the “Shortcut to RF Test.vi” icon. This brings up the LabView Test main window.

11.2 Place the UUT (unit under test) in the shield room so that the wheels are properly aligned with the notches on the plywood floor system. This ensures that the test is conducted uniformly across all units tested. Close shield room door and lock with handle.

11.3 On the main window, click the “START TEST” icon. This brings up another widow so that the following information can be added for documentation:

-UUT model # (always enter 865214)

-UUT serial #

-operator’s initials

When finished adding this information, select “DONE”. The test will start from this point and run through a number of frequency spectrums checking for acceptable noise levels.

11.4 A test report will be printed automatically upon completion. This report will say “PASS” or “FAIL”. If a unit fails, it will also include all portions of the test that did not pass. Attach report with system documentation.

Performance Assurance Tests:

Section/Test Description	Expected Test Results	Record the Results	Actual
2.0 Verify communication (COMM) between the DCU, WPU, and the WECG and WSPO2 remotes. And ICON verification.	Expected answer is “yes”. If so Communication verification is Passed.	PA2:P or PA2:F where P=pass and F=fail	
3.0 Perform WECG COMM Verification. Do all steps in section 3.0 pass?	Expected answer is “yes”. If so WECG COMM Verification is passed.	PA3:P or PA3:F where P=pass, F=fail	
4.0 Perform WSPO2 COMM Verification. Do all steps in section 4.0 pass?	Expected answer is “yes”. If so WSPO2 COMM Verification is passed.	PA4:P or PA4:F where P=pass, F=fail	
5.0 Perform NIBP Verification. Do all steps in section 5.0 pass?	Expected answer is “yes”. If so NIBP Verification is passed.	PA5:P or PA5:F where P=pass, F=fail	
6.0 Perform IBP Verification. If IBP option is not installed, do not perform. Do all steps in section 6.0 pass?	Expected answer is “yes”. If so IBP Verification is passed.	PA6:P, PA6:F or PA6:N/A where P=pass, F=fail, and N/A=not performed	
7.0 Perform AGENTS Verification. If AGENTS option is not installed, do not perform. Do all steps in section 7.0 pass?	Expected answer is “yes”. If so AGENTS Verification is passed.	PA7:P, PA7:F or PA7:N/A where P=pass, F=fail, and N/A=not performed	
8.0 Perform ETCO2 Verification. If ETCO2 option is not installed, do not perform. Do all steps in section 8.0 pass?	Expected answer is “yes”. If so ETCO2 Verification is passed.	PA8:P, PA8:F or PA8:N/A where P=pass, F=fail, and N/A=not performed	
9.0 Perform RESPIRATION Verification. If Respiration option is not installed, do not perform. Does section 9.0 pass?	Expected answer is “yes”. If so Respiration Verification is passed.	PA9:P, PA9:F or PA9:N/A where P=pass, F=fail, and N/A=not performed	

		10.0 Perform TEMPERATURE Verification. If Temperature option is not installed, do not perform. Do all steps in section 10.0 pass?	Expected answer is “yes”. If so Temperature Verification is passed.	PA10:P, PA10:F or PA10:N/A where P=pass, F=fail, and N/A=not performed		
		11.0 Perform RF Test. Do all steps in section 11.0 pass?	Expected answer is “yes”. If so RF Test is passed.	PA11:P or PA11:F where P=pass and F=fail		

Recommended frequency of Testing:

Suggested Testing Timetable	
Test	Frequency
Performance Assurance.	Recommended once a year (or as specified by local laws) and after any type of repair of the unit.
Regular Preventative Maintenance.	Recommended once a year.

RELATED DOCUMENTS: *N/A*

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